

MORE Practice with FACTORED Form:

Joey throws a ball off his balcony. The height of the ball is modeled by the relation:

$$h = -3(t - 4)(t + 2)$$

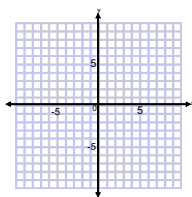
where h is the height above the ground in meters and t is the time in seconds.

a) What is the maximum height the ball reaches?

b) When does the ball hit the ground?

c) How high is the balcony?

d) Sketch the graph with all important details.



Apr 9-11:29 AM

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where h is the height above the ground in meters and t is the time in seconds.

a) What is the maximum height the ball reaches?

$$S = 4 \quad x = \frac{S+r}{2} \\ r = -2 \quad = \frac{4+(-2)}{2} \\ = \frac{2}{2} \\ = 1$$

$$(1, 27)$$

b) When does the ball hit the ground?

$$S = 4 \quad r = -2 \quad \text{At } 4 \text{ sec}$$

c) How high is the balcony?

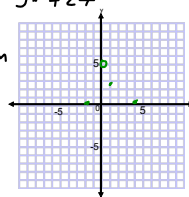
$$h(4) = -3(4-4)(4+2)$$

$$\rightarrow (4^2 + 2(4) - 8)$$

$$\rightarrow (16 + 8 - 8)$$

$$= 16$$

d) Sketch the graph with all important details.



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